



DRA

*Division of Ratepayer Advocates
California Public Utilities Commission*

505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2544
Fax: (415) 703-2057

<http://dra.ca.gov>

Dana S. Appling, Director

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Mr. Michael Gibbs
Chair of the Economics Subgroup of the Climate Action Team
California Environmental Protection Agency
1001 I Street, P.O. Box 2815
Sacramento, CA 95812-2815

Re: Comments of the Division of Ratepayer Advocates on the Draft “Updated Macroeconomic Analysis of Climate Strategies Presented in the March 2006 Climate Action Team Report”

Dear Mr. Gibbs:

The Division of Ratepayer Advocates (DRA) appreciates the opportunity to comment on the draft document “Updated Macroeconomic Analysis of Climate Strategies Presented in the March 2006 Climate Action Team Report” issued on September 7, 2007. DRA represents and advocates on behalf of public utility customers to obtain the lowest possible rates consistent with reliable and safe service levels. DRA supports the current policy goals of the State of California to reduce greenhouse gas (GHG) emissions and actively participates in the joint California Public Utilities Commission/California Energy Commission proceeding focused on GHG emission reduction targets mandated by Assembly Bill (AB32).

The Climate Action Team (CAT) Economics Subgroup analyzed the 44 climate strategies originally outlined in the 2006 CAT Report and concluded that implementation of those 44 climate strategies could in aggregate reduce emissions by 138 million metric tons of carbon dioxide equivalents (MMTCO₂e), out of the expected 2020 emission reduction target of 174 MMTCO₂e (or about 80% of the reduction target). The preliminary modeling results are very encouraging. The E-DRAM model shows positive impacts (0.3% to 0.9%) on real state output, personal income, and employment for most of the scenarios under a cap-and-trade program when compared to a base case of “do nothing.” The BEAR model shows very small negative impacts on real state output (-0.1% to -0.3%), slightly higher negative impacts on personal income (-0.5% to -0.9%), and mostly positive impacts on employment. These 44 strategies do not include new emission reduction measures that have since been identified by the Air Resources Board (ARB). Given the continual process to expand the list of early action measures and the

expectation that new low-GHG or non-GHG emitting technologies will become available, achieving the 2020 emission targets appears well within reach.

DRA summarizes its recommendations to refine the macroeconomic analysis as follows:

- (1) Include additional early action measures identified by the ARB in the set of climate strategies for the modeling exercise.
- (2) Employ consistent names for climate strategies throughout the CAT analysis and the ARB process.
- (3) Revisit the “Comprehensive Municipal Utility Program” strategy to confirm the estimated emissions reductions, which appear higher than expected compared to the electric load served by these entities.
- (4) Split up the “Comprehensive Municipal Utility Program” strategy into the four separate municipal strategies, as was done in the original CAT report.
- (5) Revisit the detailed calculations for the two strategies “IOU Energy Efficiency Programs” and “IOU Additional Energy Efficiency Programs.”
- (6) Include IOU shareholder incentive costs to the two strategies “IOU Energy Efficiency Programs” and “IOU Additional Energy Efficiency Programs”.
- (7) Add a carbon tax scenario in the economic modeling effort.

A discussion of each of these recommendations follows.

Include additional early action measures identified by the ARB in the set of climate strategies for the modeling exercise.

Since the issuance of the March 2006 CAT Report, the ARB has identified 44 early actions measures, of which nine are classified as discrete early action measures that could be adopted as regulations and made effective by January 1, 2010¹. DRA recommends that the Economics Subgroup coordinate with ARB to include some of the ARB early action measures for which costs and savings have been quantified. At a minimum, the nine discrete early action measures should be included in the CAT analysis.

Employ consistent names for climate strategies throughout the CAT analysis and the ARB process.

DRA recommends the use of consistent names of the strategies between the CAT report and the ARB early action measures. As an example, it is currently unclear whether the ARB strategies “Low carbon fuel standards” and “Green ports”² corresponds to the CAT

¹ Expanded list of early action measures to reduce greenhouse gas emissions in California recommended for Board consideration (DRAFT), California Air Resources Board, September 2007.

² Draft document “Expanded List of Early Action Measures to reduce greenhouse gas emissions in California recommended for Board consideration”, Air Resources Board, September 2007, p. 5.

Report strategies “Vehicle climate change standards” and “Shore electrification” respectively. Consistent naming of the strategies would allow agency staff and other participants to easily cross-reference strategies between the CAT analysis and the ARB analysis, and would promote the coordination of cost-benefit analyses for common strategies.

Revisit the “Comprehensive Municipal Utility Program” strategy to confirm the estimated emissions reductions.

The report shows the estimated emissions reductions of 18.0 MMTCO₂e for the “Comprehensive Municipal Utility Program” strategy, which includes 1) combined heat and power initiative, 2) accelerating renewable development, 3) carbon policy and 4) additional energy efficiency program. This estimate seems high in comparison to the total emission reductions of 18.38 MMTCO₂e attributed to the CPUC policies of accelerated RPS (8.2 MMTCO₂e), CSI (0.92 MMTCO₂e), investor owned utility (IOU) energy efficiency programs (3.66 MMTCO₂e), IOU additional energy efficiency programs (5.60 MMTCO₂e), IOU Combined heat and power (emission reductions to be determined) and IOU carbon policy (emission reductions to be determined). Given that the municipal utilities serve only about 20% of the California population, the emission reductions attributed to the municipal strategies appear high in comparison to the reductions attributed to efforts by the investor-owned utilities that serve the other 80% of California’s population.

Split up the “Comprehensive Municipal Utility Program” strategy into the four separate municipal strategies, as was done in the original CAT report.

DRA recommends listing out the four municipal strategies separately, as was done in the original CAT report. Municipal utilities have recently proposed expansion of their energy efficiency programs – the CAT report should incorporate these proposals in the analysis. It is currently unclear how much the municipal utilities will rely on renewable energy (20% or 33%) and energy efficiency in the “Comprehensive Municipal Utility Program.” A legislative mandate of 33% renewable by 2020 is a likely scenario for the base case. Also, by breaking out the component programs of the Comprehensive Municipal Programs, the costs and savings of individual programs can be cross-checked with that of the IOU programs.

Revisit the detailed calculations for the two strategies “IOU Energy Efficiency Programs” and “IOU Additional Energy Efficiency Programs.”

In Attachment B, the details of the CPUC strategy “Investor-Owned Utility Energy Efficiency Program” references Decision 05-09-043, which authorized the IOUs’ program funding for program years 2006-2008. The Detailed Strategy Goals Table is replicated as follow:

| Year | Primary Metric: Program Funds Disbursed ¹ (Million \$) | Primary Metric: First Year Electric Energy Saved by the Program ² (MWh) | Primary Metric: First Year Natural Gas Saved by the Program ² (Million Therms) |
|------|--|--|---|
| 2005 | \$561 | 2,361,999 | 17.1 |
| 2006 | \$887 | 1,687,500 | 12.8 |
| 2007 | \$1,100 | 2,573,100 | 21.0 |
| 2008 | \$1,102 | 2,830,400 | 23.2 |
| 2009 | \$1,228 | 2,402,441 | 24.4 |
| 2010 | \$1,154 | 2,266,033 | 25.6 |
| 2011 | \$1,177 | 2,279,884 | 26.9 |
| 2012 | \$1,197 | 2,264,598 | 28.3 |
| 2013 | \$1,259 | 2,461,720 | 30.8 |

¹Funds disbursed include utility program costs and incentives paid to customers.

² Energy values shown are for first year savings in each program year. Persistence of energy savings is not included.

The program funds for program years 2005 to 2008 do not correspond to the figures given in Decision 05-09-043. DRA summarized the authorized program funds for 2005 through 2008 from the CPUC decision as follows:

Authorized program funds (PGC+Procurement) without EM&V
(source: D.05-9-043 Attachment 4 - Program Budget and Savings)

| Year | PG&E | SCE | SDGE | SCG | All IOUs |
|-------------------|--------|--------|-------|-------|----------|
| 2005 | \$ 189 | \$ 206 | \$ 63 | \$ 37 | \$ 495 |
| 2006 | \$ 245 | \$ 217 | \$ 75 | \$ 44 | \$ 581 |
| 2007 | \$ 279 | \$ 225 | \$ 85 | \$ 57 | \$ 646 |
| 2008 | \$ 343 | \$ 233 | \$ 98 | \$ 68 | \$ 742 |
| 2006-08 Program\$ | | | | | \$ 1,969 |

Authorized program funds (PGC+Procurement) with EM&V
(source: D.05-9-043 Attachment 4 - Program Budget and Savings)

| Year | PG&E | SCE | SDGE | SCG | All IOUs |
|-------------------|--------|--------|--------|-------|----------|
| 2005 | \$ 193 | \$ 209 | \$ 65 | \$ 38 | \$ 504 |
| 2006 | \$ 266 | \$ 234 | \$ 81 | \$ 48 | \$ 629 |
| 2007 | \$ 304 | \$ 243 | \$ 91 | \$ 61 | \$ 699 |
| 2008 | \$ 373 | \$ 252 | \$ 106 | \$ 73 | \$ 804 |
| 2006-08 Program\$ | | | | | \$ 2,132 |

Similarly, the projected portfolio impacts for program years 2006 to 2008 do not correspond to the figures given in Decision 05-09-043. DRA summarized the projected annual incremental impacts for 2005 through 2008 from the CPUC decision as follows:

Projected MWh Portfolio Impacts by Year
(source: D.05-9-043 Attachment 4 - Program Budget and Savings)

| Year | PG&E | SCE | SDGE | SCG | All IOUs | Statewide Goals |
|------|-------|-------|------|-----|----------|-----------------|
| 2006 | 876 | 1,002 | 307 | 10 | 2,195 | 2,032 |
| 2007 | 996 | 1,121 | 337 | 13 | 2,467 | 2,275 |
| 2008 | 1,149 | 1,168 | 378 | 13 | 2,708 | 2,504 |

Projected MTh Portfolio Impacts by Year
(source: D.05-9-043 Attachment 4 - Program Budget and Savings)

| Year | PG&E | SCE | SDGE | SCG | All IOUs | Statewide Goals |
|------|--------|-----|-------|--------|----------|-----------------|
| 2006 | 15,082 | - | 2,775 | 15,790 | 33,647 | 30,000 |
| 2007 | 17,027 | - | 3,069 | 20,621 | 40,717 | 37,300 |
| 2008 | 19,647 | - | 3,693 | 24,285 | 47,625 | 44,400 |

Comparison of the program funds and energy savings projections in the draft CAT analysis to the authorized program funds and energy savings projections in CPUC Decision 05-09-043 shows the CAT figures for program budget are significantly higher, the electric energy savings are approximately the same, and the natural gas savings are far less than the figures given in Decision 05-09-043. Given the importance of energy efficiency programs as a strategy to meet the state's GHG emission reduction goals, DRA recommends that CAT staff revisit the detailed calculations for the two strategies "IOU Energy Efficiency Programs" and "IOU Additional Energy Efficiency Programs."

Include IOU shareholder incentive costs to the two strategies "IOU Energy Efficiency Programs" and "IOU Additional Energy Efficiency Programs."

The program costs of the IOU energy efficiency programs should include estimated shareholder incentives, which could be up to \$400 million for the four IOUs for program years 2006-2008 (per CPUC Decision 07-09-043). Assuming that the IOUs reach 100% of the savings goals, they will jointly earn \$327 million for program year 2006-2008, or about 16% of the EE program budget. Decision 07-09-043 explicitly stated that "shareholder incentives represent a true economic cost in the production of utility programs"³ and that

³ CPUC Decision 07-09-043, p. 150.

the costs of shareholder incentives should be included in the program cost-effectiveness calculations. For the scenario modeling, DRA recommends that the CAT Economics Subgroup add 15% of the program costs to the two strategies “IOU Energy Efficiency Programs” and “IOU Additional Energy Efficiency Programs.”

Add a carbon tax scenario in the economic modeling effort.

While a carbon tax scenario has not generally been discussed as a feasible alternative to a cap-and-trade scheme to meet the emission reduction goals, there are prominent supporters for a carbon tax scheme, including former Federal Reserve Chairman Alan Greenspan, former Vice President Al Gore, former chairman of the Bush administration's Council on Economic Advisors N. Gregory Mankiw, and Sierra Club head Carl Pope.⁴ DRA recommends that the CAT Economics Subgroup model a carbon tax scenario in addition to the cap-and-trade scenarios to understand the economic impacts of a carbon tax. The additional modeling effort should be minimal, given that the E-DRAM was originally developed to assess tax impacts and other State policies for the Department of Finance. Specifically, DRA recommends two carbon tax scenarios with \$10/ton CO₂e and \$30/ton. The results of the carbon tax scenario can be compared with the cap-and-trade scenarios to determine the relative effectiveness of a cap-and-trade system based on the impacts on real state output, personal income and employment.

Sincerely,

/s/ Diana L. Lee

Diana L. Lee
Attorney for the
Division of Ratepayer Advocates

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⁴ “Time to tax carbon”, LA Times, May 28, 2007.